CHAPTER 4: POTENTIAL INTERVENTION STRATEGIES

In Greenwood, Columbia, and around the state, community members, educators, and health professionals are working to prevent the spread of HIV. Local HIV prevention providers have used a variety of methods in attempting to control the epidemic. Although most local providers share this broad common goal, they have chosen different routes to achieve it. This chapter presents a framework for developing an intervention plan and presents some choices of intervention strategies that will help local prevention providers and educators realize their aims. Specifically, it will address the following questions:

- Who should they target?
- How do they choose objectives for their work?
- What should be the content of the intervention?
- How do they know they are being successful?

To answer these questions, it is first necessary to define what an intervention is. An intervention is an activity designed to change or avert high-risk behavior that may result in HIV infection.[i] It is a specific activity (or set of related activities) intended to bring about HIV risk reduction in a particular target population using a common method of delivering the prevention message. An intervention has distinct process and outcome objectives and a protocol outlining the steps for implementation.[ii] Successful interventions avert or reduce HIV related risk behaviors and do so at a minimal cost-benefit level of investment.[iii]

For the past fifteen years in South Carolina, HIV Health Educators and other HIV prevention providers have taught people about how to reduce their risks of infection, counseled people about the HIV antibody test and the importance of knowing their status related to getting into early treatment and care and preventing transmission to others, advocated for more treatment facilities for injecting and other drug users and other structural and environmental changes that assist individuals in changing risky behaviors, raised the awareness of policy makers and others through the mass media, helped promote condom use, supported remaining abstinent, and involved community members in providing peer education. Synthesizing these activities into a definition, one could say that HIV education and prevention refers to those activities designed to encourage and enable people to take action to prevent the spread of HIV infection. This deliberately broad definition of education and prevention acknowledges the wide scope of activities carried out and the integral connections between prevention and education and social and political factors involved in changing the behavior of those at risk.

Deciding Whom To Target

An intervention plan should contain a description of the target population for whom the intervention is intended. Issues to consider when specifying the target population in an intervention plan are show in Table 3.1

Table 3.1: Target Population Specification
• Correspondence to a high priority population noted in the Comprehensive HIV Prevention Plan. • Proportion of target population that engages in specific risk behaviors (especially if population is defined by race, ethnicity, or other non-risk related identifier). • Culture and norms • Predominant languages • Education and literacy • Competing economic or social needs • Predominant media channels used

A description of the target population needs to include the risk factors and demographics of the target population as well as the extent of the population that will be reached by the intervention (often referred to coverage). The basic demographics of age, race, ethnicity and sex can provide insight into developmental, cultural, and sex-specific issues. The description can also include other relevant details about the audience that inform the tailoring process for the intervention (such as languages and social or behavioral norms).

The specific audience to be served may also have economic or social needs that are different from the general audience described in the comprehensive HIV prevention plan. For instance, the comprehensive HIV prevention plan may list "injection drug users" as a high priority population, yet in a particular city, young methamphetamine users may be the majority of IDUs. Among these methamphetamine users, there may be low employment and high IDU-on-IDU crime. These unique issues should be taken into account in the intervention plan.

Another consideration in developing an intervention is determining the relationship of how much of the target population will be reached. For instance, a provider may believe that there are 300 injection drug users in her jurisdiction, but that she can only reasonably expect to reach 50 of them with case management services during one fiscal year. Specification of the expected coverage provides a goal to which the provider and her funders can refer when determining if the intervention reached the intended number and types of individuals.

It is critical to identify the specific risk factors that affect the intended audience. Most important is the clarification of the route of transmission of HIV that they are exposed to. A simple classification for these risks is based on the system used for HIV and AIDS surveillance:

Risk Population	Exposure Route and Risk Behaviors
Men who have sex with men (MSM)	Unprotected sex between men that results in exposure to semen or blood
Injection drug users (IDU)	Use of needles, syringes, or preparation materials by two or more people.
MSM and IDU	Risks through both sex with other men and injection drug use.
Women who are at risk for or infected with HIV who are pregnant or who may become pregnant.	Transmission to the baby prenatally, during delivery, or through breast-feeding.
Heterosexual sex with someone at risk for or infected with HIV.	Unprotected vaginal or anal sex between a man and woman that results in exposure to semen or blood.
Other	• Tatooing • Sex toy sharing between women who have sex with other women.
General Public	No specific risk for HIV, but often the target of broad prevention or education efforts to increase awareness or change community norms.

The useful way of looking at possible behavioral outcomes for HIV prevention programs is first to distinguish between those behaviors that have a direct influence on the risk of acquiring HIV infection (primary prevention behaviors: abstinence or use of condoms) and those that have an indirect influence (complementary prevention behaviors: HIV antibody counseling and testing, enrolling in drug treatment, and partner notification/counseling) and further to distinguish between those primary prevention behaviors that eliminate or reduce the risk of infection (such as, abstinence from all sexual contact and IV drug use, monogamy, and avoidance of anal and vaginal intercourse, anonymous and extra-domestic sex, unsterilized ID equipment, pregnancy by HIV+ women, and shooting galleries) and those that increase the ability to protect against infection (use of condoms, anti-HIV spermicides, bleach for cleaning ID paraphernalia, and participation in a needle exchange program).[iv]

Only a few behavior changes are needed to eliminate or lessen risk for HIV infections:

- having sex only in a monogamous relationship with an uninfected partner;
- consistently using condoms if sexually active in any other circumstance;
- for injecting drug users (IDUs), not reusing unclean needles.

Norms can be changed to discourage the initiation of drug use, reduce early initiation of sexual activity by young adolescents, and promote condom use and other safer sexual practices among those who become or remain sexually active outside monogamous relationships.[v]

Choosing the Intervention Type, Content, and Strategy

An HIV prevention intervention is an organized activity designed to bring about changes in behaviors, knowledge, attitudes, and beliefs that put people at risk for HIV infection. CDC's Announcement 99004 classified three broad categories of interventions and it is expected that most interventions funded will fall into one of them. The broad intervention categories and the most typical examples of prevention activities are shown in Table 3.4.

Intervention Category	**Specific Types of Interventions Within the Category**
Health Education/Risk Reduction (HE/RR)	• Individual-Level Intervention (ILI) • Group-Level Intervention (GLI) • Community-Level Intervention (CLI) • Outreach • Prevention Case Management (PCM)
Health Communications/ Public Information (HC/PI)	• Mass & Other Media • Hotlines • Clearinghouses
Counseling, Testing, Referral, & Partner Notification (CTRPN)	• HIV Antibody Counseling & Testing (CT) • Partner Counseling and Referral Services (PCRS)

For specific requirements for implementation and more detailed descriptions of the HIV prevention interventions listed above go to CDC program guidance 99004 at: http://www.cdc.gov/od/pgo/funding/99004cont.htm . A summary description is also included in Appendix __ of the plan. Below is a brief description of each type.

Type of Intervention and Definitions

Individual Level Intervention (ILI)
Health education and risk-reduction counseling provided to one individual at a time. ILIs assist clients in making plans for individual behavior change and ongoing appraisals of their own behavior. These interventions also facilitate linkages to services in both clinic and community settings (e.g., substance abuse treatment settings) in support of behaviors and practices that prevent transmission of HIV, and they help clients make plans to obtain these services.

Note: According to a strict categorization, outreach and prevention case management also are

individual-level interventions. However, for the purposes of this reporting, ILI does *not* include outreach or prevention case management, which each constitute their own intervention categories

Group Level Intervention (GLI)

Health education and risk-reduction counseling (see above) that shifts the delivery of service from the individual to groups of varying sizes. GLIs use peer and non-peer models involving a wide range of skills, information, education, and support.

Note: Many providers may consider general education activities to be group-level interventions. However, for the purposes of this reporting, GLI does *not* include "one-shot" educational presentations or lectures (that lack a skills component). Those types of activities should be included in the Health Communication/Public Information category.

Outreach

HIV/AIDS educational interventions generally conducted by peer or paraprofessional educators face-to-face with high-risk individuals in the clients' neighborhoods or other areas where clients' typically congregate. Outreach usually includes distribution of condoms, bleach, sexual responsibility kits, and educational materials. Includes peer opinion leader models.

Prevention Case Management (PCM)

Client-centered HIV prevention activity with that promotes the adoption of HIV risk-reduction behaviors by clients with multiple, complex problems and risk-reduction needs. PCM is a hybrid of HIV prevention counseling and traditional case management that provides intensive, ongoing, and individualized prevention counseling, support, and referral to other needed services. (changed 8/6)

Health Communication/Public Information (HC/PI)

The delivery of planned HIV/AIDS prevention messages through one or more channels to target audiences to build general support for safe behavior, to dispel myths about HIV/AIDS, to address barriers to effective risk reduction programs, to support personal risk-reduction efforts, and/or to inform persons at risk for infection how to obtain specific services.

Electronic Media: Means by which information is electronically conveyed to large groups of people; includes radio, television, public service announcements, news broadcasts, infomercials, etc., which reach a large-scale (e.g., city-, region-, or statewide) audience.
Print Media: These formats also reach a large-scale or nationwide audience; includes any printed material, such as newspapers, magazines, pamphlets, and "environmental media" such as billboards and transportation signage.
Hotline: Telephone service (local or toll-free) offering up-to-date information and referral to local services, e.g., counseling/testing and support groups.
Clearinghouse: Interactive electronic outreach systems using telephones, mail, and the Internet/Worldwide Web to provide a responsive information service to the general public as well as high-risk populations.
Presentations/Lectures: These are information-only activities conducted in group settings; often called "one-shot" education interventions.

Counseling and Testing (CT)

The major functions of counseling and testing are to provide individuals a convenient opportunity to (1) learn their current HIV serostatus; (2) participate in counseling to help initiate and maintain behavior change to avoid infection or, if already infected, to prevent transmission to others; and (3) obtain referral to additional prevention, medical care, and other needed services

Community Based Counseling and Testing (CB CT)
Is a sub-set of the C&T above which is typically conducted in a clinic setting. Community-based counseling and testing provided in community settings using OraSure for the purposes of increasing access to testing services and reaching those who may not come into a clinic

Partner Counseling & Referral Services (PCRS)

A systematic approach to notifying sex and needle-sharing partners of HIV-infected persons of their possible exposure to HIV so they can avoid infection or, if already infected, can prevent transmission to others. PCRS helps partners gain earlier access to individualized counseling, HIV testing, medical evaluation, treatment, and other prevention services.

Other Interventions

Category to be used for those interventions that cannot be described by the definitions provided for the other types of interventions. This category includes community-level interventions (CLI).

CLI are interventions that seek to improve the risk conditions and behaviors in a community through a focus on the community as a whole, rather than by intervening with individuals or small groups. This is often done by attempting to alter social norms, policies, or characteristics of the environment. Examples of CLI include community mobilizations, social marketing campaigns, community-wide events, policy interventions, and structural interventions.

Capacity Building

This not an intervention type, but is often used by intermediaries attempting to improve or enhance services in their local area. Capacity building is defined as strengthening the governmental and the nongovernmental public health infrastructure in support of HIV prevention, implementing systems to ensure the quality of services, and improving the ability to assess community needs and provide technical assistance in all aspects of program planning and operations.

It is important to note that, for purposes here, an HIV prevention ***program*** implemented by a provider may consist of either a single intervention or two or more interventions serving a particular population. An ***intervention*** is a specific activity (or set of *related* activities) intended to bring about HIV risk reduction in a particular population using a common method of delivering the prevention messages.

For example, an individual counseling intervention may consist of four sessions of related activities, but they are all provided in a clinic through one-on-one interaction. Only one intervention plan would be needed for this counseling intervention. Conversely, a program that contains both street outreach and a media campaign should have two distinct intervention plans.

Factors Influencing the Choice of Interventions

Several factors will determine the choice of interventions. The guidance for community planning suggests that some of the critical factors to consider include:

- the efficacy of the intervention,
- its behavioral or social science basis,
- and its cost effectiveness.

The attention given to science in the guidance for community planning is not intended to minimize the role of providers' experience with their communities, their constituents, and their services. It is intended to highlight the importance of increasing the extent to which prevention funds are used for interventions whose effectiveness is known or strongly supported.

Scientific evidence to support the intervention strategies should be included in local plans that are proposed for each target population. Evidence of scientific support can be in the form of prior evaluation data, behavioral and social science theories, and logic models or similar descriptions of the proposed means by which the intervention is expected to affect outcomes. Very typically, local intervention plans provide varying levels of detail about the evidence supporting the strategies; in some cases little or no scientific evidence is cited to support them. Therefore, provider agencies often need to include documentation about the scientific basis for the specific interventions they are implementing to ensure that their interpretation of the strategy is scientifically supported. Table 3.5 summarizes some of the types of evidence that might be used to support the choice of an intervention.

Table 3.5
Types of Scientific Evidence That Can Support a Choice of Interventions

The proposed intervention has:

- Undergone previous evaluation
- Used previously evaluated intervention model with a similar population
- Used previously evaluated intervention model with a different population
- Applied formal theory in program development
- Applied informal theory in program development
- Used another type of scientific evidence

Attached in Appendix ___ is a summary table of behavioral and social science theories.
In Appendix ___ is a chart describing four pathways to showing "evidence-basis." There are various documents available at the CDC web-site or its links describing interventions that have been shown to be effective. For an overview of different intervention types and "What Intervention Studies Say About Effectiveness" go to:
http://www.healthstrategies.org/pubs/publications/InterventionEffectiveness.pdf

For more information on a "Compendium of HIV Prevention Interventions with Evidence of Effectiveness" go to: http://www.cdc.gov/hiv/pubs/hivcompendium.pdf

In summary, according to the National Commission on AIDS, behavioral and social sciences report eight factors are needed for a person to lower his or her risk of HIV Infection. These include:

1. Strong intention to implement the risk-reduction/avoiding behavior
2. No environment barriers blocking the behavior change.
3. Necessary skills to execute the behavior change.
4. Perceived "pros" of the new behavior greater than the "cons."
5. Perception that peers encourage the behavior change.
6. Consistency of one's self-image with the new behavior.
7. Perception that the new behavior is positively reinforced.
8. Belief that one can actually perform the new behavior

Intensity

An assessment of the proposed intervention must also take into account whether the intervention will provide a large enough "dose" to each client to bring about the proposed outcomes. The size of the "dose" needed (sometimes called the *dose effect*) is a function of the strength of the intervention for bringing about a certain level of behavior change and the amount of exposure necessary to bring about that effect (e.g., the minimum number of outreach contacts needed to have an effect on a neighborhood or the number of individual counseling sessions required to bring about consistent condom use with 60% of counseling clients). It is difficult to expect an intervention to have an effect if the strength and duration specified in the intervention plan is too low. For example, a group counseling intervention proposing only one 30-minute session may be an insufficient dose to achieve a desired outcome of consistent condom use by all group participants.

Many providers implement interventions that have been previously evaluated by others. The original intervention that was evaluated had a specified level of strength and duration. If that same level of effect is to be expected when using that original intervention as a model, a similar level of strength and duration should be built into the intervention. Similarly, newly developed interventions must specify how much effect is expected and what duration is needed to achieve that effect (e.g., how many counseling sessions constitute a "dose" or how many viewings of a public service announcement are necessary to create awareness of an issue).

Specific Descriptions

An intervention plan should describe the specific characteristics of the intervention. These features represent the "nuts-and-bolts" of the intervention. In this section of the intervention plan, an agency should provide details about where the intervention will take place and how the provider will serve the target population.

Each of the three intervention types (HE/RR, HC/PI, and CTR/PCRS) has fairly distinct intervention elements. For example, an intervention plan for a social marketing campaign would need to discuss the distribution channels it would employ or the community mobilization procedures it would use. In contrast, an intervention plan for an individual counseling intervention might describe the activities that would occur in each session with a client (e.g., risk assessment, determination of stage of readiness to change, or behavioral contracting).

It is important that the intervention plan be explicit about the type of written materials that will be distributed and the ways in which the appropriateness of the materials will be ensured. Likewise, the program design should discuss the types of HIV prevention items (e.g., condoms and/or safer sex kits) that will be distributed and why they are appropriate for the intervention and the audience.

Examples

Below is a summary table of "intervention types" with specific examples of strategies being implemented in South Carolina.

Type of Intervention	Specific Examples
Individual-Level Intervention (ILI)	
Group-Level Intervention (GLI)	County Detention Center in Trident. Conduct 5 workshops (HIV 101, condom use, C&T topics). Use videos, ARC – AA Fundamentals course, and BART materials. App. III Peer Advocacy Program (PAP) (6-8 sessions, 2-3 hours per session) Edisto group program to women in Family Independence Act group. Focus on HIV information, risk reduction, and condom skills. 3 hr. group. Upper Savannah – train school staff and other youth workers to reach youth with HIV information and increase communication skills. Trident – Sexual risk reduction program for youth < 19 yr., 4 sessions using PTW (BPBR, BART), pre-test.
Outreach	The Popular Opinion Leader HIV/AIDS Prevention Package is being used by ……. The African American AIDS/HIV Council

	conducts a van outreach activity in the Columbia areas reaching AAMSM. The Trident HIV Prevention Collaboration conducts street outreach to primarily AA- IDU.
Prevention Case Management (PCM)	
Health Communications/ Public Information (HC/PI)	State Hotline in Columbia at 803-…. World AIDS Day Events conducted throughout the state to increase local support for HIV prevention efforts. Media involvement on state planning group. Exhibits at 4 festivals in the Wateree District. Development and distribution of a newsletter targeting Spanish speaking only including HIV/STD information, plus other health information. Presentations at STD/HIV Conference, Hispanic Health lssues Conference to increase awareness of Hispanic HIV.
Counseling & Testing (CT)	Clinic-based testing offered in the 46 county health departments. It is offered in HIV voluntary testing clinics and in the STD clinic. Community-based testing provided using Orasure at sites and times convenient to the target population. The Midlands conducted testing at eight sites during the month of July as a part of the National Testing Day campaign July 27.
Partner Counseling and Referral Services (PCRS)	Specific services provided by Disease Intervention Specialist located in the 46 county health departments.
Other	Condom distribution is conducted by the Catawba HIV Prevention Collaboration, Upper Savannah HIV Prevention Collaboration.
Capacity Building	Support is provided to Collaborations to help build partnerships between large and small community-based organizations. Large organizations may have more of a capacity to complete for, obtain, and manage funds. Smaller, more loosely structured organizations that may not be able to compete for funds, may forms associations with larger organizations and become sub-recipients of small amounts of

	funding to do specific, often single-focused interventions with a specific defined target population. There are 11 HIV Prevention Collaborations in the state. American Red Cross Instructors trainers provide courses to members of the community to build a cadre of speakers and presenters for HIV prevention programs. Health department HIV/AIDS Health Educators provide assistance in conducting needs assessment to Collaboration members.

Intervention Planning Forms

At the end of this Chapter is a sample intervention planning form that HIV prevention providers may wish to use to collect information about proposed interventions.

Choosing Objectives

Objectives for an intervention should be logically linked and begin with a description of the health outcomes and changes in health status expected in the target population as a result of the intervention. Then the behavioral objectives describe the changes in behavior needed to improve health status. Finally, learning objectives describe the specific knowledge, attitudes, or skills that are prerequisite for changes in behavior.

For example, the intervention objective may be to reduce of the incidence of new cases of HIV infection among African American women enrolled in drug treatment program from 4% to 2% in two years. The next level of objectives, behavioral objectives, might be that AA women not involved in a long-term mutually monogamous relationship will use condoms in all sexual encounters that involve exchange of semen or blood. The learning objectives might be that the participants will be able to: demonstrate how to correctly use a condom, identify strategies to remember to use a condom (like condoms on the nightstand), demonstrate skills to assertively or persuasively communicate their desire to their partner to use a condom or abstain from sex all together, or identify sources of peer and social support for using condoms, abstaining from sex, or reducing their number of partners.

Process objectives focus on the projected amount, frequency, and duration of the intervention activities and the number and characteristics of people to be served. ***Outcome objectives*** are statements of the intended effects of the intervention, such as increasing knowledge about HIV, changing risk-related behaviors, promoting community norms for safer sex, and reducing HIV transmission.

Measuring Success

Concrete information about progress is essential to ensure that high quality prevention services are delivered as intended, intended clients receive those services, training and supervision are provided in response to identified needs, and resources are expended judiciously. A minimal data system to serve these purposes would document what has been done and would be used to assess intervention progress and help identify ways to improve it; such a system is at the heart of process evaluation.

Collecting process data is often viewed as a time-consuming process—time that could be better spent serving clients with direct services. Although everyone is concerned about providing the best possible prevention services to the most people, many people are willing to continue providing services without proven value. Stakeholders and funding providers—from federal policymakers to governors to community planning groups and members of the target populations—are demanding empirical evidence of what is being done for people at risk for HIV and how well those services work. The data to support these activities can be gathered fairly easily. However, as with anything of value, a commitment of effort must be made.

Various data collection systems are used in South Carolina. Counseling and testing data is obtained from the lab reports that accompanying the test. Partner Counseling and Referral Services enter information onto an 1129 form that is entered into a computer for data analysis. Health Education/Risk Reduction, Health Communication/Public Information, and Prevention Case Management Services can be entered on a web-based system that has been developed in South Carolina called CODES. These data collection and evaluation systems are described in more detail in Chapter 8. Additional information on evaluating interventions can also be found at: http://www.cdc.gov/hiv/aboutdhap/perb/hdg2/ch3res.pdf

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[i] Chapter 6, CDC Planning Handbook
[ii] Evaluation Guidance, vol.2, 3-1, http://www.cdc.gov/hiv/aboutdhap/perb/hdg2/ch3res.pdf
[iii] Appendix B, CDC Planning Handbook
[iv] "Measurement of Outcome" Evaluating AIDS Prevention Programs, National Research Council, National Academy Press, 1991
[v] "AIDS Prevention: Strategies that Work" by Jeffrey A. Kelly, PhD